Reconciliation System and Dashboard Design Document

# 1. System Overview

This system allows clients to configure and manage data reconciliations between source and target tables. Each reconciliation is defined through a hierarchy: Client -> Mocks -> Entities -> Tables. Reconciliation processes are executed and tracked with metrics captured in a dedicated detail table. A dashboard is built using Oracle JET to visualize reconciliation status and metrics.

# 2. Database Schema Design

-- CLIENT MASTER  
CREATE TABLE XX\_CLIENT (  
 CLIENT\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 CLIENT\_NAME VARCHAR2(100) NOT NULL  
);  
  
-- MOCK MASTER  
CREATE TABLE XX\_MOCK (  
 MOCK\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 CLIENT\_ID NUMBER REFERENCES XX\_CLIENT(CLIENT\_ID),  
 MOCK\_NAME VARCHAR2(100) NOT NULL,  
 STARTED\_FLAG CHAR(1) DEFAULT 'N',  
 CREATED\_DATE DATE DEFAULT SYSDATE  
);  
  
-- ENTITY MASTER  
CREATE TABLE XX\_ENTITY (  
 ENTITY\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 MOCK\_ID NUMBER REFERENCES XX\_MOCK(MOCK\_ID),  
 ENTITY\_NAME VARCHAR2(100) NOT NULL  
);  
  
-- ENTITY TABLE MAPPING  
CREATE TABLE XX\_ENTITY\_TABLE (  
 ENTITY\_TABLE\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 ENTITY\_ID NUMBER REFERENCES XX\_ENTITY(ENTITY\_ID),  
 TABLE\_NAME VARCHAR2(100) NOT NULL,  
 TABLE\_TYPE VARCHAR2(10) CHECK (TABLE\_TYPE IN ('SOURCE', 'TARGET'))  
);  
  
-- METADATA TABLE (Source/Target mapping)  
CREATE TABLE XX\_METADATA (  
 METADATA\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 ENTITY\_ID NUMBER REFERENCES XX\_ENTITY(ENTITY\_ID),  
 SOURCE\_TABLE VARCHAR2(100),  
 TARGET\_TABLE VARCHAR2(100)  
);  
  
-- RECONCILIATION DETAILS TABLE  
CREATE TABLE XX\_RECON\_DETAILS (  
 RECON\_ID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
 METADATA\_ID NUMBER REFERENCES XX\_METADATA(METADATA\_ID),  
 RECON\_DATE DATE DEFAULT SYSDATE,  
 SOURCE\_COUNT NUMBER,  
 TARGET\_COUNT NUMBER,  
 MISMATCH\_COUNT NUMBER,  
 DC\_FINAL\_REC\_COUNT NUMBER  
);

# 3. PL/SQL Packages and Procedures

CREATE OR REPLACE PROCEDURE RECONCILE\_ENTITY(p\_metadata\_id IN NUMBER) IS  
 v\_source\_count NUMBER;  
 v\_target\_count NUMBER;  
 v\_mismatch\_count NUMBER;  
 v\_source\_table VARCHAR2(100);  
 v\_target\_table VARCHAR2(100);  
BEGIN  
 SELECT SOURCE\_TABLE, TARGET\_TABLE INTO v\_source\_table, v\_target\_table  
 FROM XX\_METADATA WHERE METADATA\_ID = p\_metadata\_id;  
  
 EXECUTE IMMEDIATE 'SELECT COUNT(\*) FROM ' || v\_source\_table INTO v\_source\_count;  
 EXECUTE IMMEDIATE 'SELECT COUNT(\*) FROM ' || v\_target\_table INTO v\_target\_count;  
 v\_mismatch\_count := ABS(v\_source\_count - v\_target\_count);  
  
 INSERT INTO XX\_RECON\_DETAILS(  
 METADATA\_ID, SOURCE\_COUNT, TARGET\_COUNT, MISMATCH\_COUNT)  
 VALUES (p\_metadata\_id, v\_source\_count, v\_target\_count, v\_mismatch\_count);  
  
 COMMIT;  
END;

# 4. CSV Upload API (Oracle APEX or REST)

-- Update DC\_FINAL\_REC\_COUNT from uploaded data  
UPDATE XX\_RECON\_DETAILS  
SET DC\_FINAL\_REC\_COUNT = :P\_CSV\_VALUE  
WHERE RECON\_ID = :P\_RECON\_ID;

# 5. Oracle JET Dashboard

Use oj-chart, oj-table, oj-button to display summary of reconciliation, mock status, and entity-wise comparisons.

fetch('/ords/api/recon\_summary')  
 .then(response => response.json())  
 .then(data => {  
 this.summaryData = data.items;  
 });

# 6. System Flow Diagram

Client -> Mock -> Entity -> Table Mappings  
 |  
 V  
 XX\_METADATA (Source + Target)  
 |  
 V  
 RECONCILE\_ENTITY(p\_metadata\_id)  
 |  
 V  
 XX\_RECON\_DETAILS (Tracking Counts)  
 |  
 V  
 Oracle JET Dashboard (Visualization + CSV Upload)

# 7. Key Features

- Modular client-mock-entity-table hierarchy

- Automated count comparison and mismatch detection

- Manual CSV upload support for final record count

- Oracle JET-based UI for insights and tracking

# 8. Future Enhancements

- Drill-down mismatch records

- Scheduling and alerts

- Dynamic schema inference and mapping suggestions